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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,883	10/19/2001	John Haughey	13791	7341

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EXAMINER

VO, LILIAN

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 09/22/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

[Handwritten signature]

Office Action Summary

Application No.

09/981,883

Applicant(s)

HAUGHEY, JOHN

Examiner

Lilian Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1 – 31 are pending.

Drawings

2. The drawings are objected to because the unlabeled circles 110, 120, 16 and box 14 (fig. 1) shown in the drawing should be provided with descriptive text labels.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because the term task T3 (page 20, lines 21 and 23) is inconsistent with the description details and the drawing. The examiner believes that is a typographical error and that task T3 should be task T2.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 1 – 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. **Claims 1 and 30 – 31** express with “AND” condition for the feature of advancing execution of the selected task until the earlier of a) completion of the selected task and b) expiry of the execution timer. Because they express with “AND” condition, does that mean both of the conditions have to be met? Or just either one of the conditions, whichever occur earlier?

According to the specification disclosure (page 9, last paragraph and page10, last paragraph), it should be expressed with an “OR” condition in which the examination process will be based on.

A clarification is required to overcome this type of rejection.

6. **Claims 22** recites “to remove the existing task” because the “selected task” is a new version and of an existing task which execution is more advanced than for the selected task”.

The claim languages are not clear and need to clarify.

7. **Claim 28** claims both a computer-readable media and a method steps in a single claim, which is considered indefinite. See *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat.App. & Inter. 1990). Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 2, 7, 11 – 18, 20, 23 – 26, 28 and 30 - 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Peters et al. (6,385,637, hereinafter Peters).
10. Regarding **claims 1, 28 and 30 - 31**, Peters discloses a method of executing a set of at least one incomplete task, comprising:
- a. selecting an incomplete task from the set (col. 9, lines 5 – 26);
 - b. resetting an execution timer having an expiry condition (col. 9, lines 5 – 26);
 - c. advancing execution of the selected task until the earlier of (i) completion of the selected task or (ii) expiry of the execution timer (col. 1, lines 35 – 43, col. 2, lines 2 – 47, col. 9, lines 5 - 26); and

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- d. upon expiry of the execution timer prior to completion of the selected task, suspending execution of the selected task (col. 9, lines 5 – 26).
- 11. Regarding **claim 2**, Peters discloses the step of:
 - e. returning to step (a) following suspension of the selected task (abstract, col. 9, lines 5 – 26).
- 12. Regarding **claim 7**, Peters discloses the selecting an incomplete task from the set includes selecting an incomplete task on the basis of a priority associated with that task (col. 1, lines 43 – 46).
- 13. Regarding **claims 11 – 13**, Peters discloses that advancing execution of the selected task includes beginning the selected task if it has not been previously suspended and resuming the selected task if it has been previously suspended (col. 9, lines 5 – 13).
- 14. Regarding **claims 14 – 18 and 23 - 26**, Peters discloses that suspending the selected task includes saving a context associated with the selected task includes state of the task and state of a CPU, and variables local to the selected task (col. 9, lines 5 – 26).
- 15. Regarding **claim 20**, Peters discloses that the expiry condition of the execution timer is a pre-determined period of time (col. 9, lines 5 – 13).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 21, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (6,385,637, hereinafter Peters).

18. Regarding **claim 21**, Peters discloses the process timing in which the accumulator value corresponding to the selected process represents a total processing time (abstract). It would have been obvious for one of an ordinary skill in the art to recognize that when the timer expires, and the current processing task has not been completed will be suspended and waited, thus at this time, accounted for some percentage of completion during the scheduled time period.

19. Regarding **claim 27**, Peters discloses the step of context switching or where one task suspended and a new task is initiated (col. 7, lines 63 – 65 and col. 9, lines 5 - 26), thus implying that additional task has been considered. It would have been obvious for one of an ordinary skill in the art at the time the invention was made to recognize that newly added task could be generated in response to the receiving of a message and/or request for fulfilling system processing requirement.

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20. **Claim 29** is rejected on the same ground as stated in claims 1 and 27 above.

21. Claims 3 – 6, 8 – 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (6,385,637, hereinafter Peters) as applied to claim 1 above, in view of Shi et al. (US 6,757,897, hereinafter Shi).

22. Regarding **claim 3**, Peters did not clearly disclose that task complete processing before the time period expires. Nevertheless, Shi discloses that upon completion of the selected task prior to expiry of the execution timer, returning to the selecting step (col. 19, lines 26 – 42). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate this feature to Peters so that other pending tasks can be selected for execution, thus utilizing the availability of the resource.

23. Regarding **claim 4**, Peters did not clearly disclose the additional limitation as claimed. Nevertheless, Shi discloses that upon completion of the selected task prior to expiry of the execution timer (col. 19, lines 26 – 42) and removing the selected task from the set and returning to the selecting step (col. 22, line 55 – col. 23, line 17). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate this feature to Peters so that only suspended/yielded task remain in the queue for processing, thus minimizing the usage storage.

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24. Regarding **claim 5**, Peters did not clearly disclose the additional limitation as claimed. Nevertheless, Shi discloses the selecting an incomplete task the set includes selecting task on the basis of how recently that task has become a member of the set (col. 2, lines 22 – 31). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate this feature to Peters so that tasks can be serviced on the basis of the order they enter the queue.

25. Regarding **claim 6**, Peters did not clearly disclose the additional limitation as claimed. Nevertheless, Shi discloses the selecting an incomplete task from the set includes selecting an incomplete task on the basis of an expected duration for that task (col. 11, lines 40 – 50, col. 15, lines 25 - 34 and col. 21, lines 44 - 54). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate this feature to Peters for scheduling tasks because different tasks have different processing requirement.

26. Regarding **claims 8 and 9**, Peters did not clearly disclose the additional limitation as claimed. Nevertheless, Shi discloses the selecting an incomplete task the set includes selecting task on the basis of how long ago or the number of times that the task was suspended (col. 2, lines 11 - 17). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate this feature to Peters so that tasks can be serviced on the basis of waiting time in the queue.

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27. Regarding **claim 10**, Peters did not clearly disclose the additional limitation as claimed. Nevertheless, Shi discloses the selecting an incomplete task from the set includes selecting an incomplete task on the basis of a random function (col. 21, lines 44 - 54). because different tasks have different processing requirement.

28. Regarding **claim 19**, although Peters discloses time slice scheduling, he did not clearly disclose that the expiry condition of the execution timer is a pre-determined number of clock cycles. Nevertheless, Shi discloses that the expiry condition of the execution timer is a pre-determined number of clock cycles (col. 1, line 60 – col. 2, line 2). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate this feature to Peters for scheduling tasks so that all tasks can get an equally amount processor time.

29. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. (6,385,637, hereinafter Peters) as applied to claim 1 above, in view of Dugan et al. (US 6,363,411, hereinafter Dugan).

30. Regarding **claim 22**, Peters did not disclose the additional limitation as claimed. Nevertheless, Dugan discloses the step of removing the existing task if a new version of the existing task generated for processing/servicing (col. 22, lines 32 – 46). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate this feature to Peters for replacing old version of information with a new/updated information for providing sufficient quality service.

Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2127

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September 17, 2004


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